



Role of the Energy Commission

Joint Reliability Plan - Track 1 Workshop
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Scope

- Existing RA Program
- CEC's Integrated Energy Policy Report
- Other Long-term Reliability Assessments



Existing RA Program



Context

- By agreement with CPUC and CAISO, CEC plays a support role for existing RA program
- CEC support role applies to two classes of LSE
 - CPUC-jurisdictional LSEs
 - POUUs and other entities inside the CAISO and subject to CAISO tariff
- Via AB380, the CEC has its own limited RA oversight responsibility for POUUs outside of the CAISO BAA



Year Ahead LSE Load Forecasts

- LSE-specific load forecasts for existing RA process
 - March: LSE's submit historic data
 - April: LSEs submit load forecast
 - April – May: CEC reviews LSE load forecasts
 - June CEC prepares final LSE-specific load forecasts for coming compliance year by adjusting LSE-generated forecasts to assure conformance with CEC aggregate load forecast



Peak Load Ratio Shares

- Once all LSE load forecasts are complete, then peak load ratio shares calculated
- Load ratio shares used to allocate:
 - Import and Path 26 capacity
 - DR credit
 - CAM credit
 - Flexibility requirements



Load Forecasts for Local RA

- CEC 1:10 weather peak load forecasts used by CAISO in power flow modeling to determine local capacity area requirements
- CAISO staff starts process each November
- CEC staff provides annual peak demand forecast in December
- CAISO submits final local RA requirements to CPUC in May each year for subsequent year



Load Forecasts and Flexibility

- CEC aggregate peak load forecasts used by ISO in flexibility study process, except:
 - CAISO uses monthly peak demand forecasts
 - 1:2 weather, not 1:10 weather
- Peak load ratios (monthly) used in allocation of overall flexibility requirements to each LSE



CEC's IEPR



CEC Processes

- Since 1975, the CEC has biennially prepared an overall energy policy report
- Name and exact scope has changed several times through the years
- Long-run load forecasts have been a key element of the supporting analyses
- Creation of RA program caused:
 - More focus on short run
 - Need to prepare/update year-ahead forecast



Integrated Energy Policy Report (IEPR)

- Biennial, completed in odd years with an update in even years
- Scope can be very broad (electricity, natural gas, and transportation fuels) and is somewhat elastic depending upon the issues
- Electricity and natural gas assessments always included in some manner, especially demand forecasts
- Beginning 2014, CEC will prepare/adopt a demand forecast for years 1-10 each year

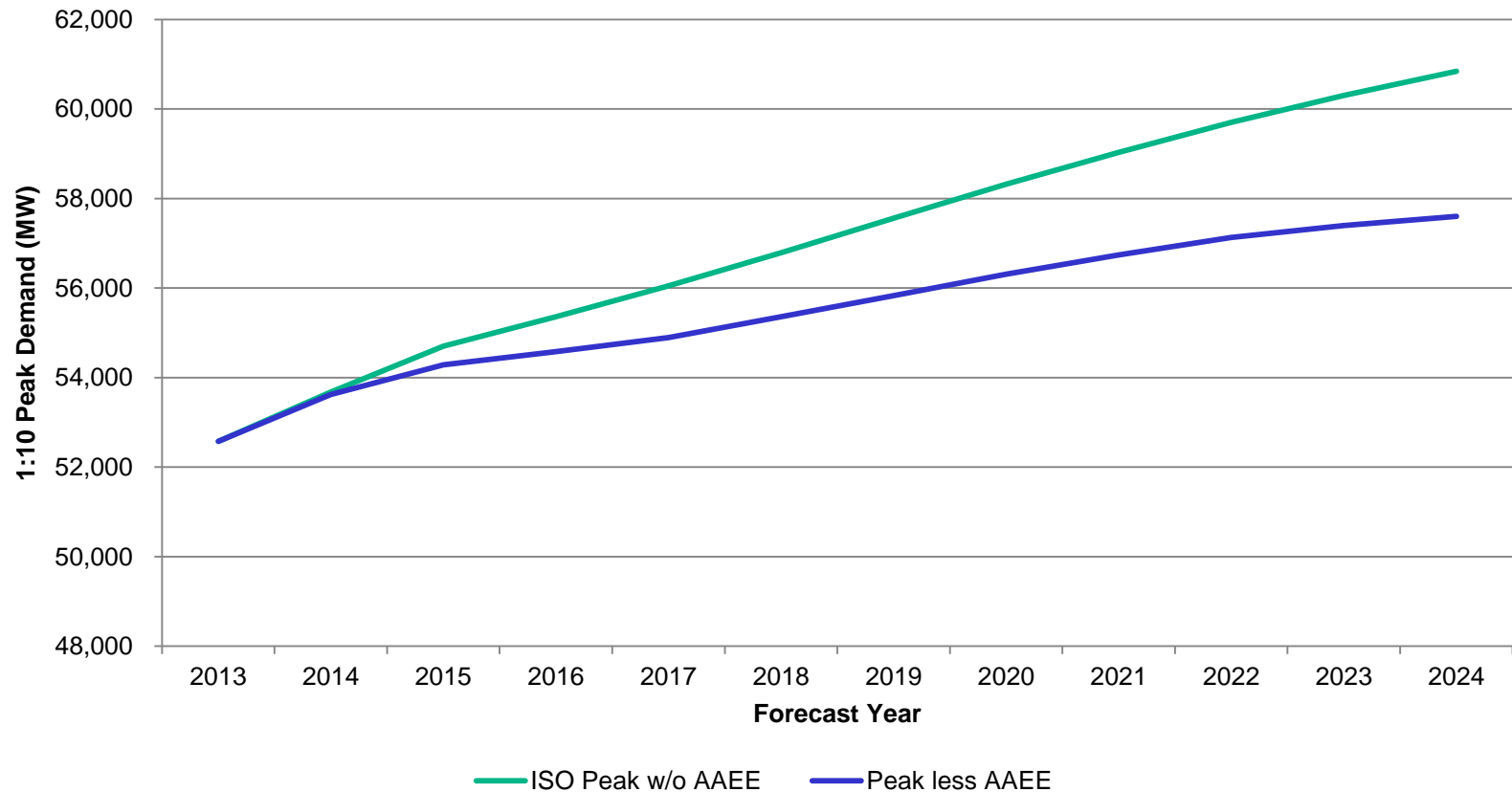


Information Sources

- Actual electricity and natural gas consumption data and forecasts out 10 years from all LSEs in California (>200MW)
- Electricity resource plans out 10 years from all LSEs in California (>200MW)
- Public (and confidential) data from CAISO on many topics
- Generator and fuel supplier data



2013 IEPR Demand Forecast (1:10 Peak, low-mid AAEE)





CEC Demand Forecast Variants

Version	Geographic	Weather	Time Increment	AAEE Adjust.
System	3 of 8 CEC planning areas add to ISO	1:2 or 1:5 peak demand typically used in studies	Annual/monthly peaks and annual energy	With and w/o AAEE
Local	CEC Form 1.5 disaggregates to UDC areas	1:10 August peak demand used in ISO studies	Annual 1:10 peak demand usually sufficient	With and w/o AAEE
Flexibility	3 of 8 CEC planning areas add to ISO	Monthly 1:2 peaks provided to ISO	8760 hourly loads needed for production simulation, but in development	AAEE adjustment translated by first user into hourly impacts



Reliability Assessments



Reliability Assessment Methods

Version	Methods	Implementation Issues	Modeler
System	Supply/demand balances satisfying PRM	Methods are simple, but assumptions are difficult	CEC, CPUC, ISO, IOUs
Local	Local capacity studies using power flow and stability models	Complexity of studies limits number of cases that can be assessed	ISO, PTOs, consultants
Flexibility	Evolving toward stochastic production simulation to determine load following and ramping requirements	No consensus about methodologies and no standards for determining how much is needed	ISO, IOUs, CPUC/ED, consultants



Reliability Assessment Issues

Version	Key Issues	Analytic Challenges
System	Level of imports	Rest of WECC not represented directly
Local	Impacts of transmission upgrades	Transmission shifts generation from local to zonal/system
	Ability to count upon customer-side of the meter policy impacts	Much greater granularity of projections and ability to assure participation
Flexibility	Level of stress to use in defining flexibility requirements	Stochastic distribution of inputs and resulting probability distribution of results should guide need



Questions?